Despite the progress of modern medicine, improvements in diagnosis and development of drug susceptibility tests, tuberculosis (TB) remains as a global threat for public health, and remains as one of the most threatening curable infectious diseases.

World Health Organization reported in 2019 that 1.2 million people died of TB. Children (<15 years) accounted for 15% of total deaths.

An effective control of TB is based on immediate detection of *Mycobacterium tuberculosis* followed by a prompt implementation of the adequate anti-TB therapy.

**NEEDS**

Although the conventional diagnostic methods are irreplaceable tools, detection of TB by microscopy has *poor sensitivity*, and culture methods have *poor timeliness* for clinical management.

A delay in the TB diagnosis patient leads to a more severe disease, with increased risk of mortality and a spread of the disease.

There is a real necessity for *rapid, efficient and higher sensitivity techniques* for the diagnosis of the disease.

**SOLUTION**

Our project presents:

- A profile of *metabolic biomarkers* present in urine whose relative level can *diagnose tuberculosis*.

These metabolic markers can thus be used in a non-invasive *diagnostic method* for identifying and classifying patients.

The specific pattern of metabolites could be also *used during the treatment* for monitoring the efficacy.

**KEY ADVANTAGES**

- Easy accessible and easy to collect samples: urine
- Non invasive method
- Suitable to use in children
- Identification and classification of TB patients
- Differentiation from patients with other respiratory infections
- Determination of TB therapy efficacy